

Ngo, Kim

From: Rodriguez, Jose
Sent: Wednesday, August 20, 2014 10:39 PM
To: Ngo, Kim
Subject: FW: Grand Casino Water Plant

Thank you,

Jose

From: Rodriguez, Jose
Sent: Thursday, July 10, 2014 8:35 AM
To: 'Keith Jennings'
Cc: Ngo, Kim; Richard Kunze; wdbengineering@sbcglobal.net; Bill Davis
Subject: RE: Grand Casino Water Plant

Keith,

I wrote this email a couple of weeks ago and thought I had sent it out. I just noticed it in my draft box today. I apologize for not sending it earlier. Let me know if you have any questions.

Thank you for the submission of the response to the significant deficiencies from the sanitary survey for the Firelake Grand Casino Water System (PWS #061020808). I have previously responded on the schedule for completing the wells.

As for the RO unit, the documentation you submitted is for point of entry or point of use Reverse Osmosis units used in homes and not for a public water system. Also as stated in the first paragraph of page 2 of the "Reverse Osmosis treatment of Drinking Water" study you submitted "Only treatment systems certified for cyst reduction by NSF, International (a nonprofit agency that tests health-related products) should be used for this purpose." While RO can be used for cyst removal such as *cryptosporidium* and *giardia* the regulations do require that additional testing be conducted before they are approved. The additional testing involve demonstration projects to determine the effectiveness of the RO system to removal *cryptosporidium* and *giardia*, *cryptosporidium* monitoring, and challenge testing and direct integrity testing. The regulatory citations for these requirements are found below.

According to the regulations under "Subpart T—Enhanced Filtration and Disinfection—Systems Serving Fewer Than 10,000 People" the following are the filtration requirements for PWSs with "alternative filtration" of which RO is one, water systems that use RO must do a demonstration project to show its *cryptosporidium* and *giardia* removal effectiveness (See below).

§141.552 My system consists of "alternative filtration" and is required to conduct a demonstration—what is required of my system and how does the State establish my turbidity limits?

(a) If your system consists of alternative filtration (filtration other than slow sand filtration, diatomaceous earth filtration, conventional filtration, or direct filtration) you are required to conduct a demonstration (see tables in §141.551). Your system must demonstrate to the State, using pilot plant studies or other means, that your system's filtration, in combination with disinfection treatment, consistently achieves:

- (1) 99 percent removal of *Cryptosporidium* oocysts;

(2) 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts; and

(3) 99.99 percent removal and/or inactivation of viruses.

In addition to this requirement, you are required to monitor for cryptosporidium in accordance to “Subpart W—Enhanced Treatment for *Cryptosporidium*” as found in the citation below.

§141.700 General requirements.

(c) *Requirements.* Systems subject to this subpart must comply with the following requirements:

(1) Systems must conduct an initial and a second round of source water monitoring for each plant that treats a surface water or GWUDI source. This monitoring may include sampling for *Cryptosporidium*, *E. coli*, and turbidity as described in §§141.701 through 141.706, to determine what level, if any, of additional *Cryptosporidium* treatment they must provide.

(2) Systems that plan to make a significant change to their disinfection practice must develop disinfection profiles and calculate disinfection benchmarks, as described in §§141.708 through 141.709.

(3) Filtered systems must determine their *Cryptosporidium* treatment bin classification as described in §141.710 and provide additional treatment for *Cryptosporidium*, if required, as described in §141.711. All unfiltered systems must provide treatment for *Cryptosporidium* as described in §141.712. Filtered and unfiltered systems must implement *Cryptosporidium* treatment according to the schedule in §141.713.

If additional treatment is required you must comply with §141.719(b) which requires a challenge testing and direct integrity testing, see citation below:

§141.719 Additional filtration toolbox components.

(b) *Membrane filtration.* (1) Systems receive *Cryptosporidium* treatment credit for membrane filtration that meets the criteria of this paragraph. Membrane cartridge filters that meet the definition of membrane filtration in §141.2 are eligible for this credit. The level of treatment credit a system receives is equal to the lower of the values determined under paragraph (b)(1)(i) and (ii) of this section.

(i) The removal efficiency demonstrated during challenge testing conducted under the conditions in paragraph (b)(2) of this section.

(ii) The maximum removal efficiency that can be verified through direct integrity testing used with the membrane filtration process under the conditions in paragraph (b)(3) of this section.

(2) *Challenge testing.* The membrane used by the system must undergo challenge testing to evaluate removal efficiency, and the system must report the results of challenge testing to the State. Challenge testing must be conducted according to the criteria in paragraphs (b)(2)(i) through (vii) of this section. Systems may use data from challenge testing conducted prior to January 5, 2006 if the prior testing was consistent with the criteria in paragraphs (b)(2)(i) through (vii) of this section.

I can provide the additional citations if needed. Please review the information provide and above and let me know how you plan to proceed to address these requirements.

Thank you,

Jose

From: Keith Jennings [<mailto:kjennings@POTAWATOMI.ORG>]
Sent: Wednesday, April 16, 2014 12:54 PM
To: Rodriguez, Jose
Cc: Ngo, Kim; Richard Kunze; wdbengineering@sbcglobal.net
Subject: Grand Casino Water Plant

Jose',

Attached please review our response to the significant deficiencies from the sanitary survey for the Firelake Grand Casino Water System (PWS #061020808).

I have also attached a schedule for the completion of the significant deficiencies for your approval.

Keith Jennings
Utility Manager
Grand Casino